Brussels, 2 December 2008

SES' answer to Ofcom consultation: Delivering super-fast broadband in the UK

SES is pleased to contribute to this important consultation on delivering super-fast broadband in the UK. We welcome the intention of public authorities at EU and national levels to continue influencing and shaping the technologies and networks of the future, for all European citizens.

The development of new technologies like internet and mobile communications has changed the way of living for billions of people around the world. Nowadays, the customer is constantly seeking more services from the internet using multiple devices for applications such mobile video, music downloads etc. In order to provide these services, there is an increasing need for not only more bandwidth but also infrastructure enhancements and convergence.

Future network architectures like LTE, FTTC, FTTH etc will require unprecedented levels of capital investments in the UK and globally. The business case for these investments is still uncertain and there appears to be a growing consensus that convergence will be required to control cost and consolidate consumption. Therefore, we at SES believe that it is very important to participate in this consultation with OFCOM in view of the far reaching implications of current decisions.

SES believes that the drive for convergence will result in more prudent management of supply and demand for broadband access. This will result in bandwidth aggregation strategies to merge different access technologies in order to deliver and exploit opportunities for consumption.

Company background

SES is one of the world leaders in satellite operations with its headquarters in Luxembourg; it was formed out of a network of satellite operators located across all continents - operating mainly through SES ASTRA in Europe and SES AMERICOM/NEW SKIES in North and South America, Africa the Middle East and Asia. SES also holds 90% of SES SIRIUS and strategic participations in other satellite operators, such as QuetzSat in Mexico and Ciel in Canada, as well as in a number of satellite service provision companies. Through our global satellite fleet we reach 99% of the world's population, offering strength and expertise, on a global scale.

SES broadband services.

ASTRA*2Connect* is a satellite-based solution for broadband access; it is marketed via a growing network of resellers and internet service providers to the residential market. This innovative service offers highly reliable, always-on, two-way broadband internet access. Today, it is packaged with VoIP internet telephony for a flat service fee. The low cost customer premises equipment comprises of a satellite modem and a dish, with a smart self-installation tool. ASTRA*2Connect* offers an immediate opportunity for households in regions without terrestrial broadband to gain access to broadband services today[1].

To date, DSL and cable broadband services have been deployed in the same geographic areas – these are typically urban and metropolitan areas with relatively high population densities; this is because of the higher techno-economic breakpoints associated with these technologies as compared to satellite broadband, which offers the lowest breakpoint - it is a viable proposition irrespective of population density - *i.e. <1 household/km^2 , compared to 18 households/km^2 for DSL, the main alternative technology*. Therefore, it is now widely acknowledged that, although terrestrial services play a central role in Europe's broadband future, they will not be deployed universally to all citizens. The emergence of the "digital divide" is evidence of that situation; it denies tens of millions of Europeans access to increasingly essential broadband services, thus precluding their participation in Europe's new information-based economy.

Moreover, a new *"digital divide"* is evolving, one based on access speeds; in a recent study (Q2 2008) SES commissioned a major European consultancy firm to investigate the performance of xDSL, based on subscriber loop lengths. The results indicated that ADSL was not capable of delivering >1Mb/s to 30% of Europeans; that figure jumps to 70% if one considers >8Mb/s access. These statistics make a serious case for access aggregation, based on a diverse mix of access technologies that can be used to deliver the full requirement of broadband speed to citizens. To put this into context, consider that an HDTV service would require ~8Mb/s, thereby already creating a fundamental block to telco triple play strategies, as concurrent use of DSL becomes impossible. In light of these findings, we submit that satellites will play a central role in closing both the *"old"* and the *"emerging"* divides.

Furthermore, satellite-based broadband is the only truly viable way to serve the more than forty-five million European households where the physics of loop length and population density make DSL and other terrestrial technologies a difficult value proposition without government subsidy; however, it must be noted that, to date, government subsidies have not addressed the "speed divide", which is set to become a major political issue. With these market dynamics in mind, next generation satellites will play an important role in the future.

Since SES is not primarily a terrestrial communication operator, the most important question proposed by OFCOM is question 19:- *"what role can the public sector play in the NGA deployment?"*

Our current belief is that the public sector will have at least three mains tasks:-

[1] See Astra-2-Connect website: www.astra2connect.com

1. *Firstly, it should define NGA in terms of the quantity and quality of life it should afford citizens;*
2. *Secondly, it should consider cost-benefit analysis and business case analysis for NGA deployments, given the European socio-economic context and forecasts;*
3. *Thirdly, the public sector should remain agnostic to technology, but an active influencer of the considerations that drive NGA as an infrastructure for economic growth.*

SES Position

1. **Need for a precise definition of Next Generation Broadband Service**

The definition is linked to **Question 2:** *"who should lead on defining and implementing a process for migrations to and from next generation access networks?"* Point 11.10, states that *"BT's exchange upgrade programme did render some community wireless and satellite broadband schemes obsolete, (…)"*

We strongly disagree with that position; satellite broadband is an advanced technology as it offers potentially a leading position with regards to mass media distribution. Furthermore, it is clear given multiple studies by leading research houses that ADSL, and even VDSL/FTTC will struggle technically and economically to add value that citizens can afford, and moreover that investors can profit from.

To elaborate the case for satellite further, it must be stated that the services outlined in point 3.3 have been available in digital format on satellite for more than 10 years; SES-ASTRA satellites have offered and served millions of households, providing the opportunity to listen to thousands of radio and TV channels. Today, SES ASTRA provides more than 3600 radio and TV channels in Europe. Soon, this will be possible on mobile devices, enabling citizens to receive media services all over Europe thanks to mobile satellite services, using the MSS 2GHz band[2]. SES is also developing IPTV strategies, based on requirements from operators and service providers, which are increasingly realizing that triple-play and *nPlay* strategies will not only require plurality of NGA, but specifically a large satellite component.

In the future, SES ASTRA foresees in the possibility of new satellite technology with smaller spot beams that will allow the provision of enhanced services to its customers.

[2] See the website of our joint venture with Eutelsat: Solaris. http://www.solarismobile.com/

2. Cost of the fiber rolling out

Bringing fiber to the home (FTTH) in the UK will cost tens of billions of pounds; recent independent estimates puts it at 1,000 Euros/household. This will not happen over night, nor can it be justified given current and forecast operator ARPU levels. Also, the complexity and plurality of consumer consumption channels, notwithstanding the techno-economics of FTTH, will delay deployments, while citizens and operators seek to aggregate access to media and communications given the increasingly random choices that facilitate consumption. Therefore, considering the high cost of FTTH investment, we believe that satellites will not only remain a natural complementary solution, but will increase its role in the emerging NGA. Notably, we estimate the incremental cost of FTTH will be dominated by civil engineering cost, where unforeseen risks tend to be highest, pushing any return on FTTH investments to a horizon of over 25 years even under an optimistic evaluation.

As a direct consequence, we believe that public money would be best invested in pursuing strategies that deliver harmonization in terms of affordability, irrespective of technology. OFCOM should recognize that the emerging NGA will include multiple access technologies that drive service availability, a factor which we believe is more critical than any applied technology. Notably, the Australian government had to reconsider their approach when it realized that the cost of bringing FTTH to all citizens was not viable. Today, they have decided to include multiple technologies including wire line, terrestrial wireless and satellite, to create the most cost effective solution.

3. Stick to a Technology Neutral approach

What is important to the citizens is to get the service at the price they are able to pay and for services they require. Therefore, SES welcomes OFCOM decision to update its position every year, through a consultation process exploring "the delivery of broadband in the UK". Clearly, this update is necessary to measure the progress in terms of defining citizen/consumers needs and industry capabilities.

We have examined with great care your consultation document and would like to raise some concerns with regards to Point 11.8; it is related to the role of the public sector in the next generation access deployment.

Point 11.8 states *"the generally positive story in the UK concerning willingness to invest in telecommunications might mask some important differences in terms of willingness to invest in specific regions or types of geography, and hence some examples of more localized market failures"*.

Our concern stems from the fact that since 2007, ASTRA has commercialized Astra2*Connect*, its high speed satellite broadband service across Europe. To that end we are concerned to ensure there is no contradiction between choices applied by the market and the strong support of UK public authorities to the rollout of ADSL and/or fiber technologies. How can there be *"market failure"* when satellite broadband has been and still is available? This is also at odds with OFCOM's own consultation text, as outlined in Point 1.10 which states that - "*technology choice is best left to the market"*.

DSL operators have in some countries benefitted directly from state aid; it reinforces their financial clout to the detriment of competing satellite operators which provide comparable broadband services. Moreover, we now know that DSL will not cater for the "*speed divide"* so alternative access technologies will be required. This underlines the point that if there is state aid to terrestrial infrastructure, then 'neutrality' should be paramount and subsidies should apply to satellite broadband as well.

Similarly, OFCOM is right to seek an understanding of how the market is evolving technically and to offer oversight of the switchover from analogue to digital terrestrial television over the coming years. Here also we believe and support the principles that the switchover should be carried out in accordance with European law, specifically that Member State policy interventions should be transparent and justified, non-discriminatory, especially "*technologically neutral"* and in line with EU policy.

We strongly insist that public interventions in the market respect these guidelines, specifically the technology neutrality principle.

Conclusions

In conclusion, SES foresees that next generation satellites target higher broadband capacities, which will allow satellite to deliver high speed broadband to areas which cannot be covered by terrestrial solutions both in terms of the *"digital divide"* and the emerging "*speed divide."*

SES submits that satellite is not a dispensable option in the emerging NGA landscape; it can deliver service levels comparable to average DSL and beyond. Satellite can deliver very high speeds directly to the home: internet access at speeds up to 16 Mbps and multiple Gbps of TV/HDTV content. Satellites services based on current in service satellites provide today commercial broadband speeds of 2 Mbit/s *i.e. comparable to ADSL.*. To that end, satellite is already competitive today and with continuing developments and planned GEO and LEO constellations will evolve tomorrow into an even more competitive service. However, we reiterate and emphasise the need for plurality of technologies in emerging NGA as it represents the key to broadband availability and the lowering of access costs for all citizens through a broad range of services which are likely to be requested by end-users.

SES will be pleased to continue to work with OFCOM in order to exchange points of view on NGA. We are also willing and ready to offer clarification of our position if needed.